

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL061319\
 Data File : VL033909.D
 Acq On : 13 Jun 2019 22:48
 Operator : SY/AP
 Sample : K3357-02DL 10X
 Misc : 400ml/MSVOA L
 ALS Vial : 1 Sample Multiplier: 1

Instrument :
 MSVOA_L
 ClientSampleId :

Quant Time: Jun 14 05:35:36 2019
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL060719AIR.M
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA_L Fri Jun 07 08:53:27 2019
 QLast Update : Fri Jun 07 08:53:27 2019
 Response via : Initial Calibration

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min)
1) Bromochloromethane	5.75	49	1122863	10.00	ppbv	0.00
33) 1,4-Difluorobenzene	7.28	114	2523004	10.00	ppbv	0.00
55) Chlorobenzene-d5	12.22	117	2522621	10.00	ppbv	0.00

System Monitoring Compounds						
68) 1-Bromo-4-Fluorobenzene	14.56	95	1854357	8.95	ppbv	0.00
Spiked Amount	10.000	Range	65 - 135	Recovery	=	89.50%

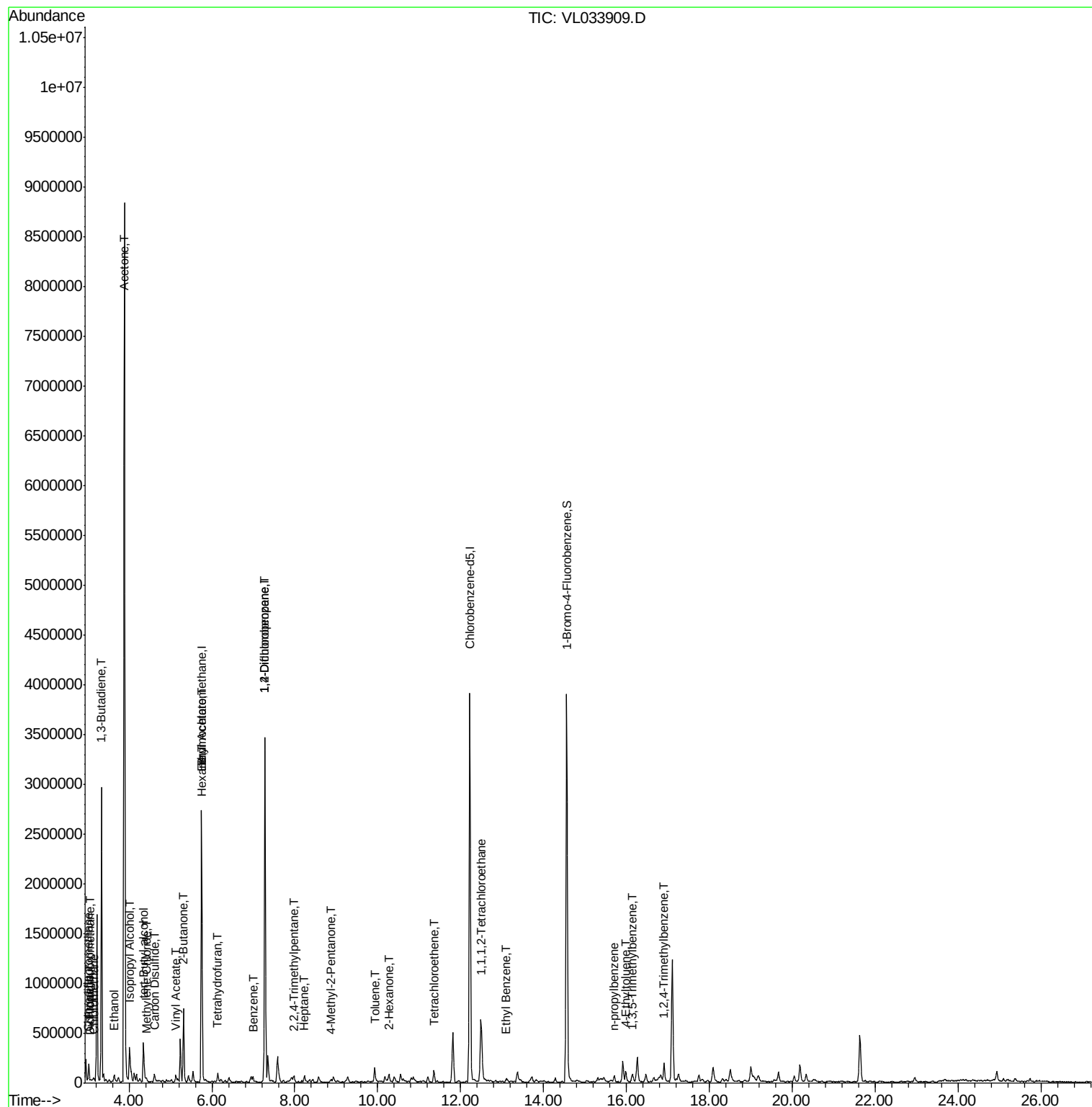
Target Compounds					Ovalue
2) Dichlorodifluoromethane	3.07	85	5533	0.030 ppbv	89
3) Chlorodifluoromethane	3.00	51	9875	0.075 ppbv #	87
4) Chloromethane	3.16	50	5019	0.067 ppbv #	69
9) Propene	3.03	41	61011	1.233 ppbv	91
10) Heptane	8.23	43	21962	0.176 ppbv	90
13) Ethanol	3.64	45	66597	4.138 ppbv	98
15) Acetone	3.89	43	9206661	56.219 ppbv #	87
16) 1,3-Butadiene	3.34	39	753990	12.096 ppbv #	12
17) tert-Butyl alcohol	4.35	59	350602	2.739 ppbv	97
19) Isopropyl Alcohol	4.01	45	361647	3.866 ppbv #	94
20) Methylene Chloride	4.40	84	7798	0.122 ppbv #	73
23) Vinyl Acetate	5.14	43	17712	0.093 ppbv	96
25) Ethyl Acetate	5.76	43	29496	0.118 ppbv #	93
26) Hexane	5.77	57	29520	0.260 ppbv #	36
27) Carbon Disulfide	4.61	76	50775	0.322 ppbv #	90
34) 2-Butanone	5.31	43	822523	5.779 ppbv	98
36) Benzene	6.99	78	41753	0.217 ppbv	95
39) 1,2-Dichloropropane	7.28	63	614823	8.266 ppbv #	25
41) Tetrahydrofuran	6.14	42	45371	0.628 ppbv	98
44) 2,2,4-Trimethylpentane	7.98	57	38199	0.111 ppbv #	62
50) 4-Methyl-2-Pentanone	8.87	43	14824	0.070 ppbv #	85
51) 2-Hexanone	10.26	43	32822	0.198 ppbv #	37
52) Tetrachloroethene	11.35	164	17453	0.257 ppbv	86
53) Toluene	9.93	91	105607	0.495 ppbv	100
56) 1,1,1,2-Tetrachloroethane	12.49	131	123963	1.125 ppbv #	10
58) Ethyl Benzene	13.09	91	8606	0.030 ppbv	91
64) n-propylbenzene	15.70	120	12553	0.136 ppbv	98
72) 4-Ethyltoluene	15.98	105	75585	0.249 ppbv #	95
73) 1,3,5-Trimethylbenzene	16.14	105	26363	0.088 ppbv #	79
74) 1,2,4-Trimethylbenzene	16.91	105	120856	0.350 ppbv #	74

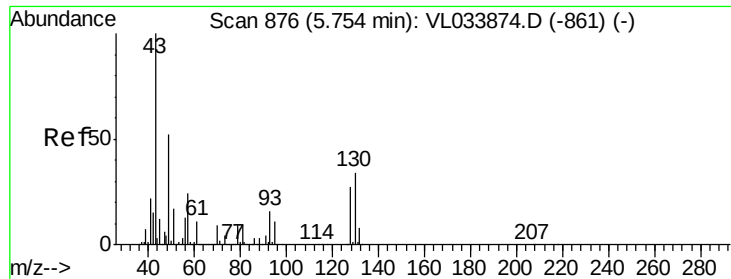
(#) = qualifier out of range (m) = manual integration (+) = signals summed

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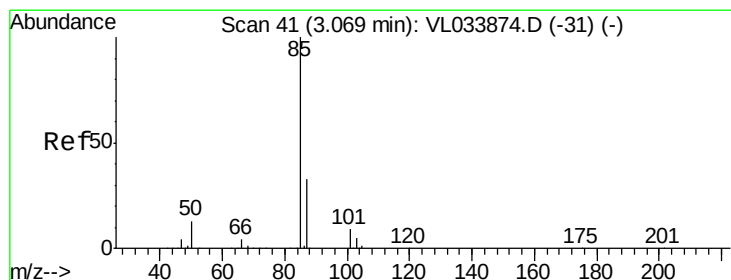
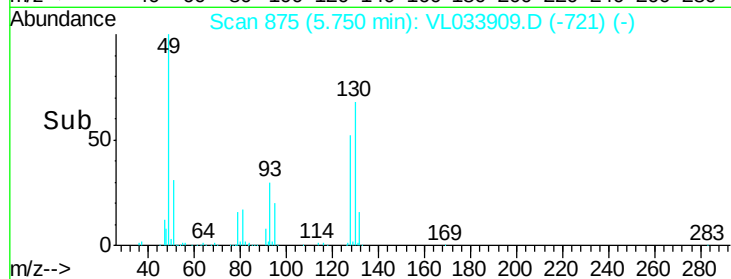
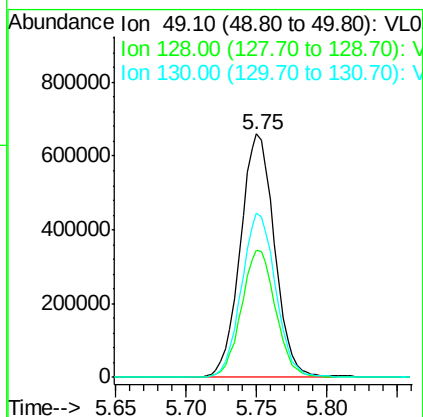
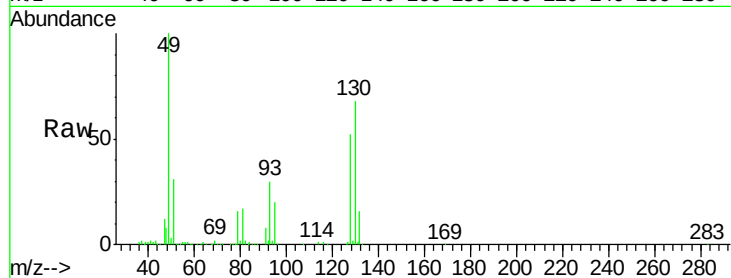




#1
Bromochloromethane
Concen: 10.000 ppbv
RT: 5.75 min Scan# 875
Delta R.T. -0.00 min
Lab File: VL033909.D
Acq: 13 Jun 2019 22:48

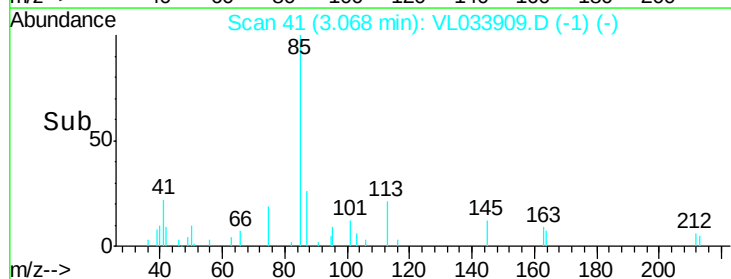
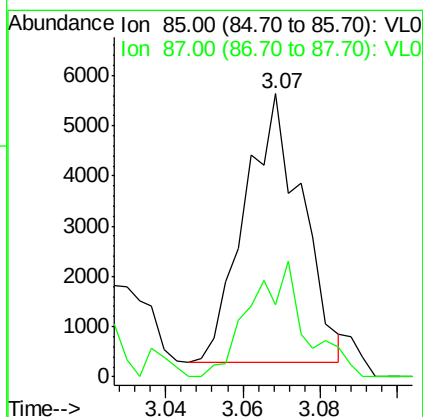
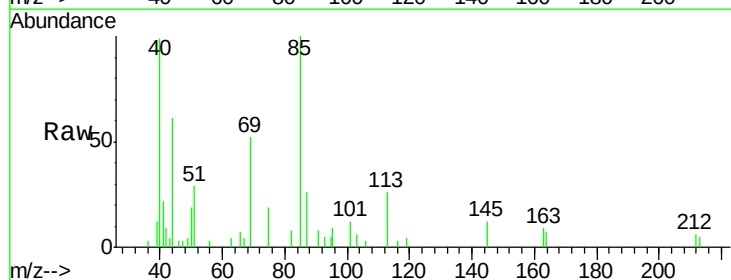
Instrument :
MSVOA_L
ClientSampleId :

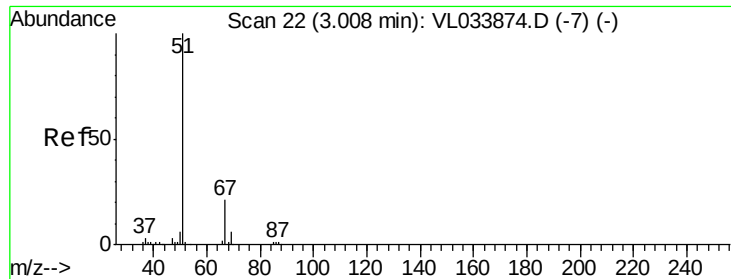
Tot Ion: 49 Resp: 1122863
Ion Ratio Lower Upper
49 100
128 52.4 25.5 76.5
130 67.7 32.5 97.4



#2
Dichlorodifluoromethane
Concen: 0.030 ppbv
RT: 3.07 min Scan# 41
Delta R.T. -0.00 min
Lab File: VL033909.D
Acq: 13 Jun 2019 22:48

Tgt Ion: 85 Resp: 5533
Ion Ratio Lower Upper
85 100
87 26.9 26.6 40.0





#3

Chlorodifluoromethane

Concen: 0.075 ppbv

RT: 3.00 min Scan# 21

Delta R.T. -0.00 min

Lab File: VL033909.D

Acq: 13 Jun 2019 22:48

Instrument :

MSVOA_L

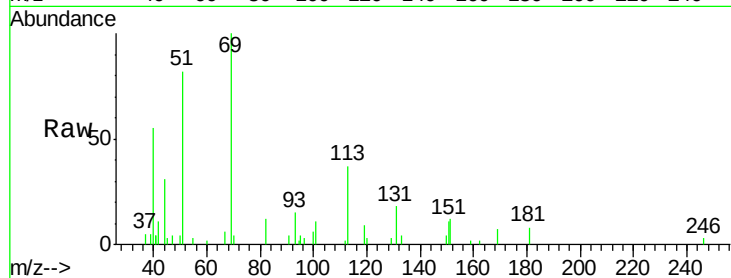
ClientSampleId :

Tot Ion: 51 Resp: 9875

Ion Ratio Lower Upper

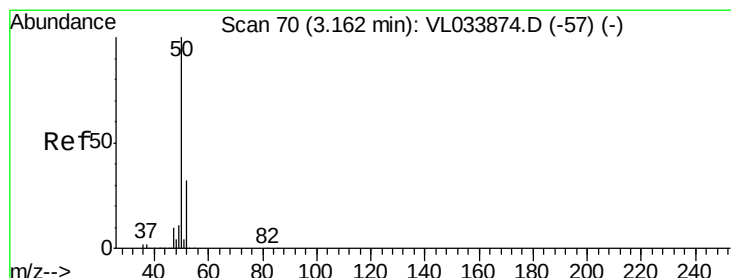
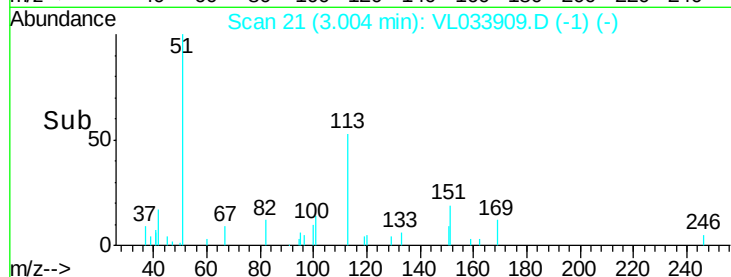
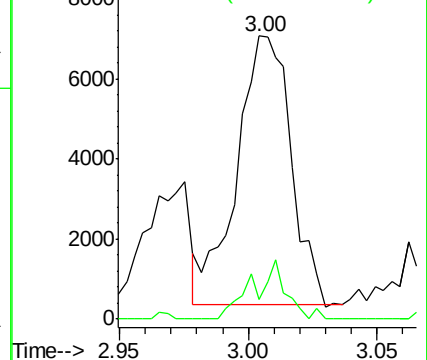
51 100

67 14.6 16.4 24.6#



Abundance Ion 51.00 (50.70 to 51.70): VL0

Ion 67.00 (66.70 to 67.70): VL0



#4

Chloromethane

Concen: 0.067 ppbv

RT: 3.16 min Scan# 70

Delta R.T. -0.00 min

Lab File: VL033909.D

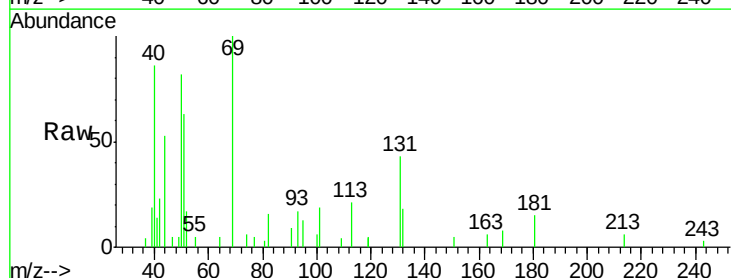
Acq: 13 Jun 2019 22:48

Tgt Ion: 50 Resp: 5019

Ion Ratio Lower Upper

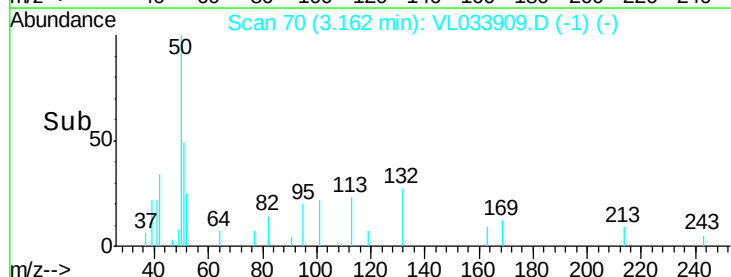
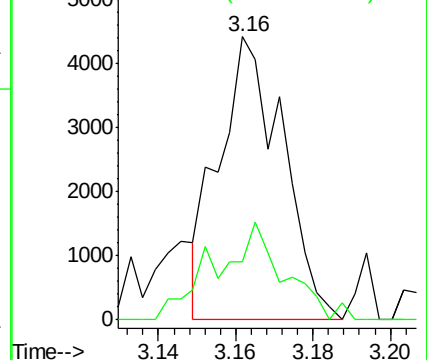
50 100

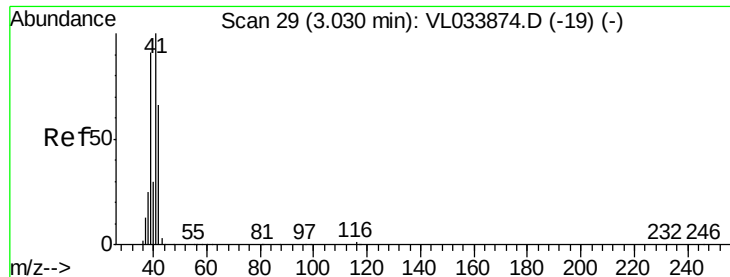
52 14.5 25.4 38.0#



Abundance Ion 50.10 (49.80 to 50.80): VL0

Ion 52.10 (51.80 to 52.80): VL0





#9

Propene

Concen: 1.233 ppbv

RT: 3.03 min Scan# 29

Delta R.T. -0.00 min

Lab File: VL033909.D

Acq: 13 Jun 2019 22:48

Instrument :

MSVOA_L

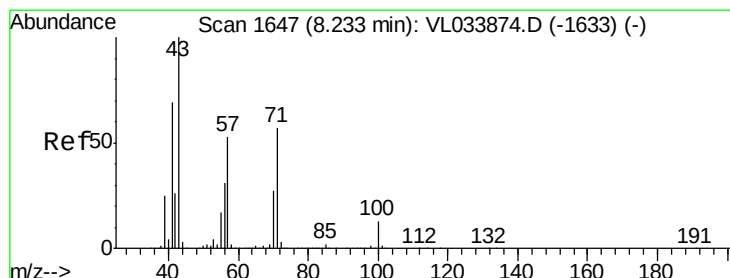
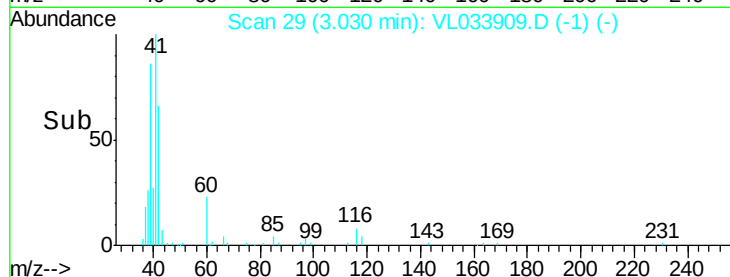
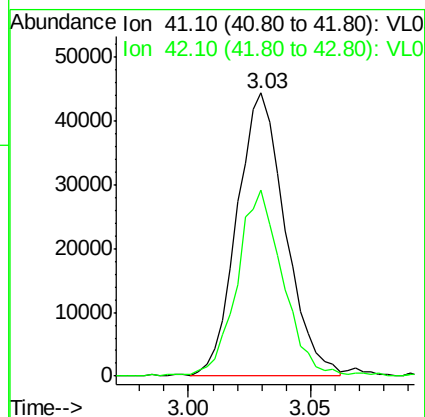
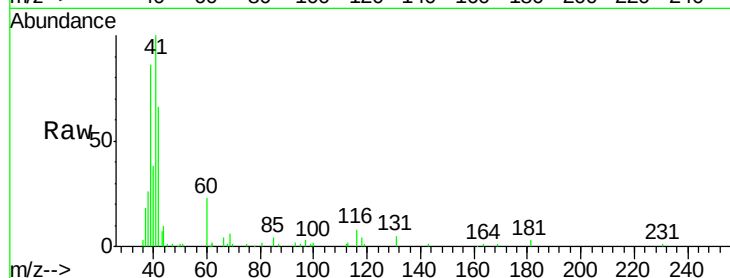
ClientSampleId :

Tot Ion: 41 Resp: 61011

Ion Ratio Lower Upper

41 100

42 62.7 56.3 84.5



#10

Heptane

Concen: 0.176 ppbv

RT: 8.23 min Scan# 1645

Delta R.T. -0.01 min

Lab File: VL033909.D

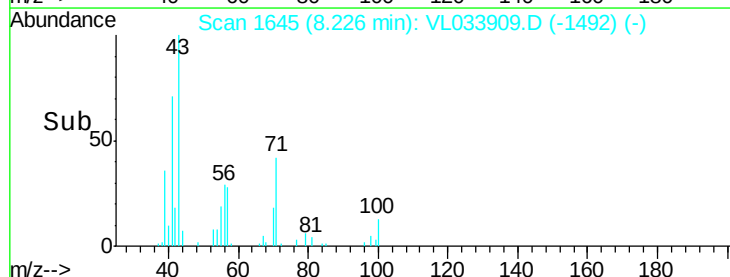
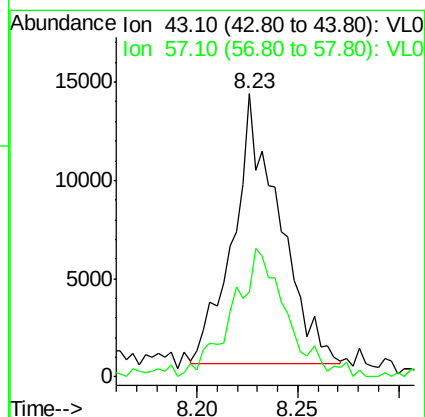
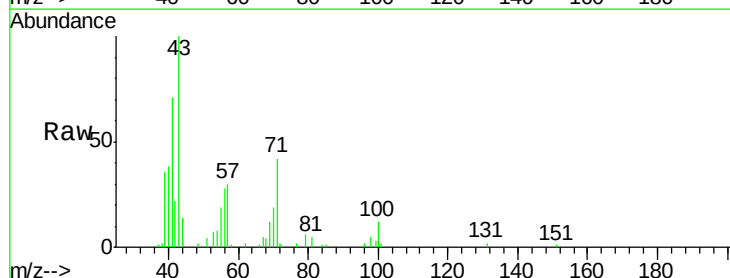
Acq: 13 Jun 2019 22:48

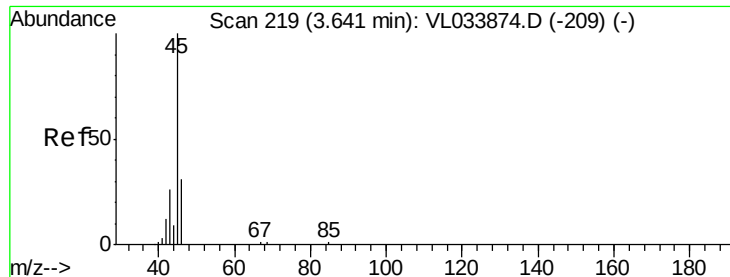
Tgt Ion: 43 Resp: 21962

Ion Ratio Lower Upper

43 100

57 59.4 41.7 62.5

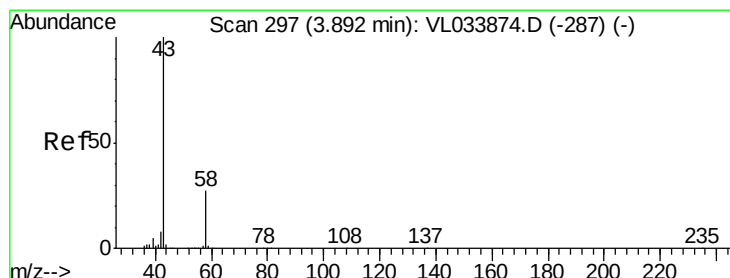
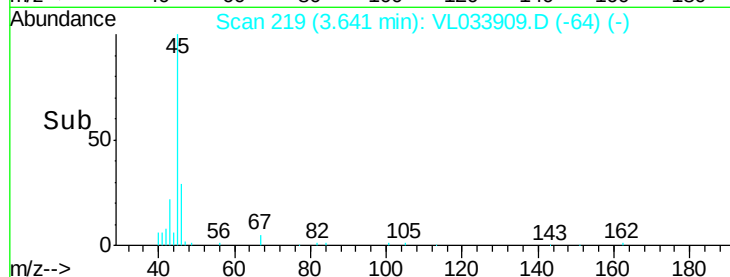
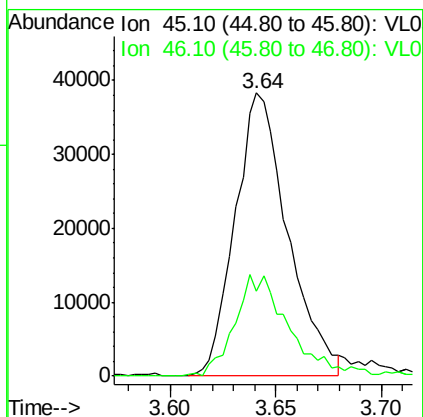
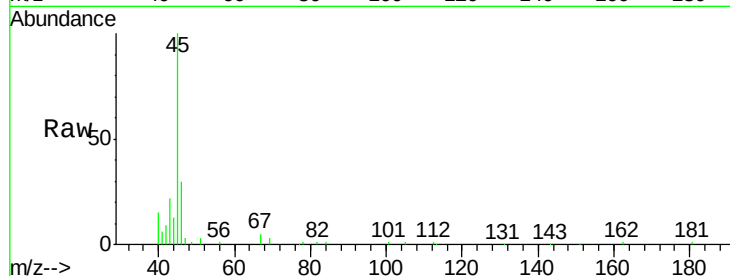




#13
Ethanol
Concen: 4.138 ppbv
RT: 3.64 min Scan# 219
Delta R.T. -0.00 min
Lab File: VL033909.D
Acq: 13 Jun 2019 22:48

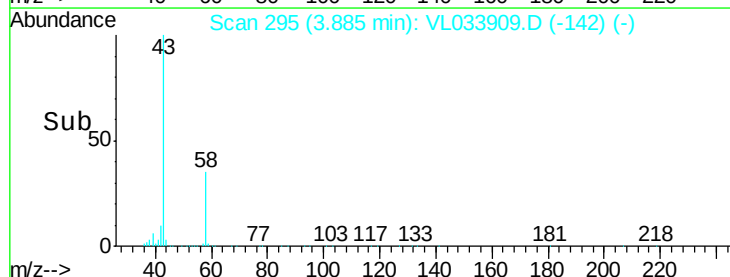
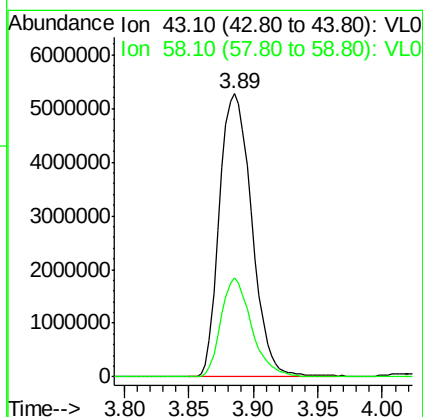
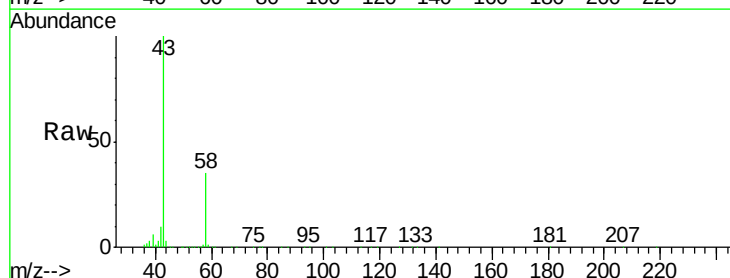
Instrument :
MSVOA_L
ClientSampleId :

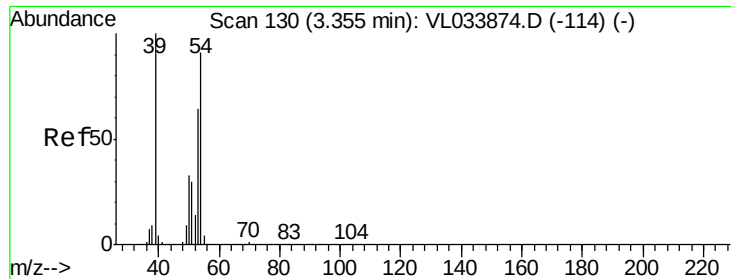
Tot Ion: 45 Resp: 66597
Ion Ratio Lower Upper
45 100
46 37.3 15.3 61.1



#15
Acetone
Concen: 56.219 ppbv
RT: 3.89 min Scan# 295
Delta R.T. -0.01 min
Lab File: VL033909.D
Acq: 13 Jun 2019 22:48

Tgt Ion: 43 Resp: 9206661
Ion Ratio Lower Upper
43 100
58 33.2 21.3 31.9#





#16

1,3-Butadiene

Concen: 12.096 ppbv

RT: 3.34 min Scan# 124

Delta R.T. -0.02 min

Lab File: VL033909.D

Acq: 13 Jun 2019 22:48

Instrument :

MSVOA_L

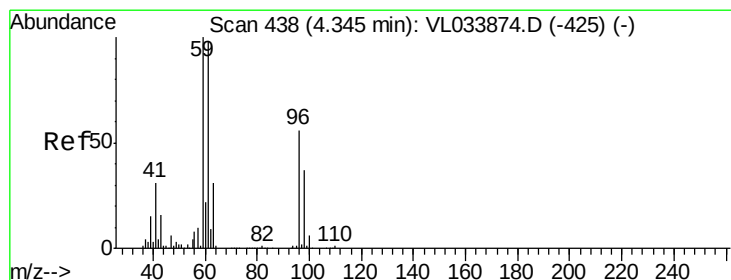
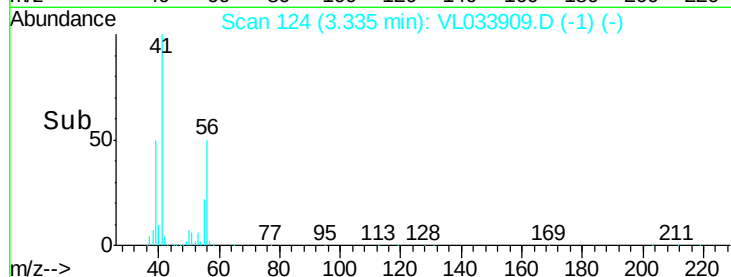
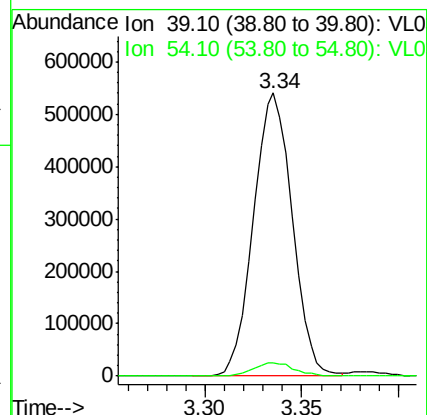
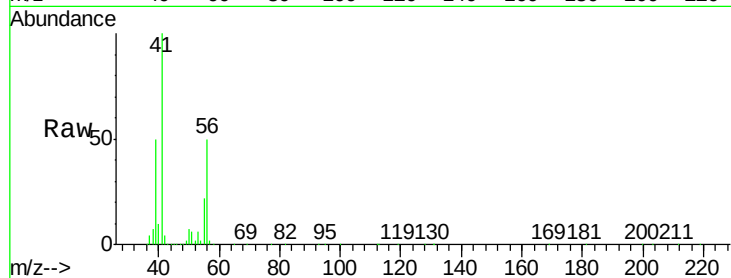
ClientSampleId :

Tot Ion: 39 Resp: 753990

Ion Ratio Lower Upper

39 100

54 5.1 68.6 103.0#



#17

tert-Butyl alcohol

Concen: 2.739 ppbv

RT: 4.35 min Scan# 439

Delta R.T. 0.00 min

Lab File: VL033909.D

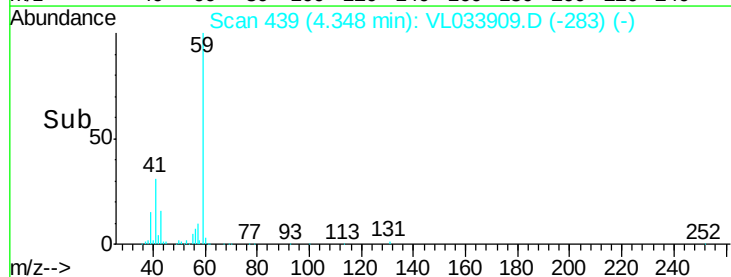
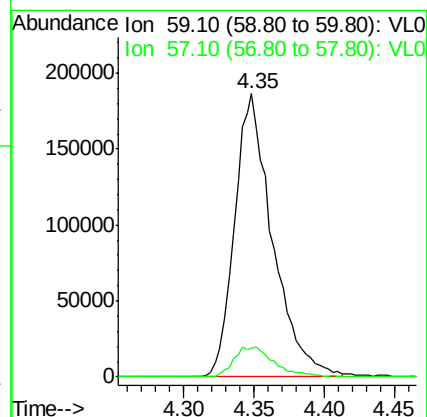
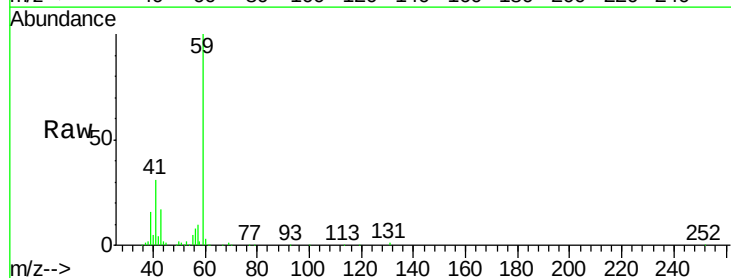
Acq: 13 Jun 2019 22:48

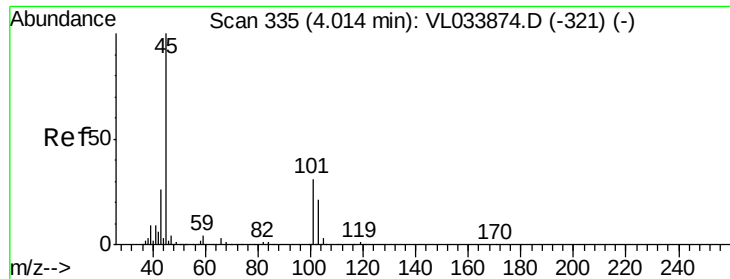
Tgt Ion: 59 Resp: 350602

Ion Ratio Lower Upper

59 100

57 11.6 8.4 12.6



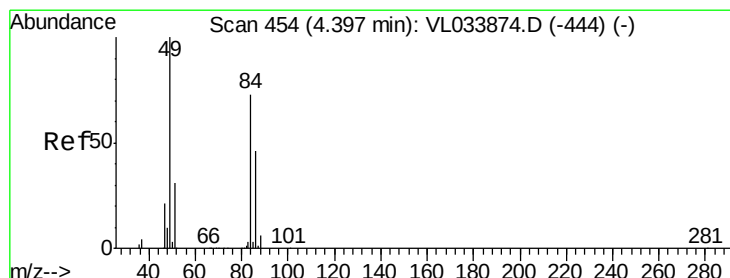
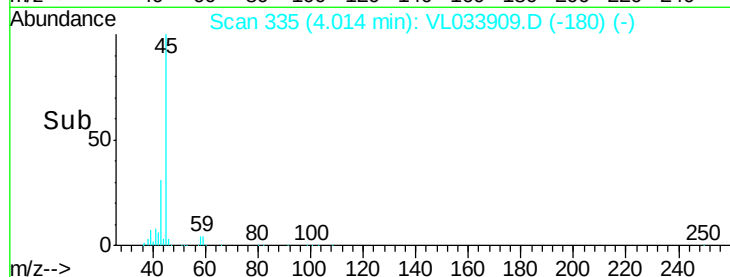
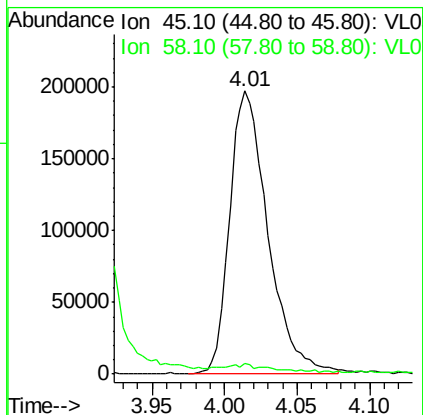
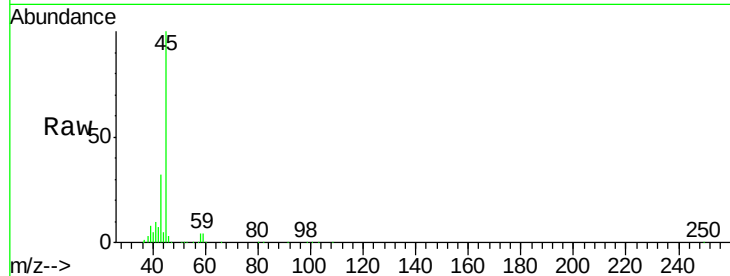


#19

Isopropyl Alcohol
 Concen: 3.866 ppbv
 RT: 4.01 min Scan# 335
 Delta R.T. -0.00 min
 Lab File: VL033909.D
 Acq: 13 Jun 2019 22:48

Instrument :
 MSVOA_L
 ClientSampleId :

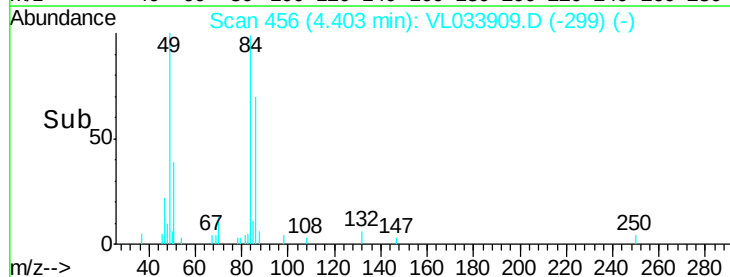
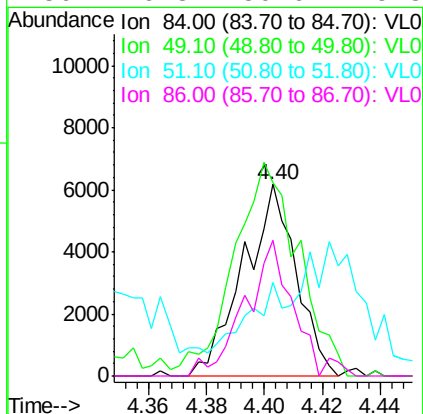
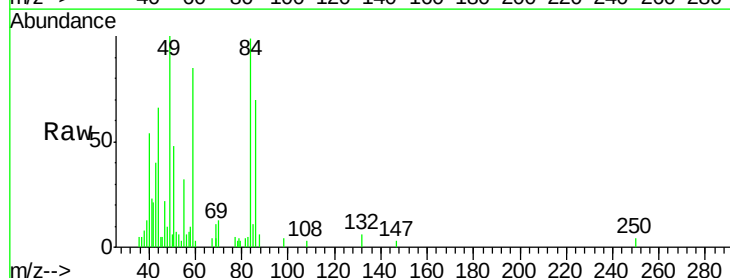
Tot Ion: 45 Resp: 361647
 Ion Ratio Lower Upper
 45 100
 58 0.0 1.8 2.6#

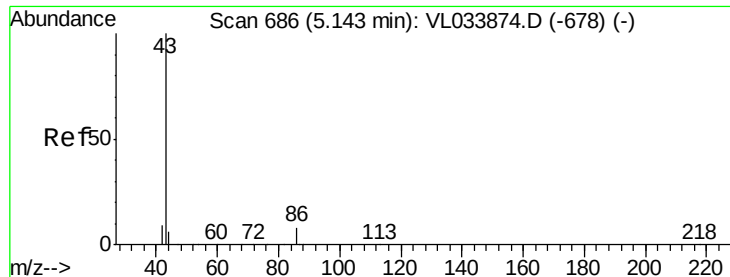


#20

Methylene Chloride
 Concen: 0.122 ppbv
 RT: 4.40 min Scan# 456
 Delta R.T. 0.01 min
 Lab File: VL033909.D
 Acq: 13 Jun 2019 22:48

Tgt Ion: 84 Resp: 7798
 Ion Ratio Lower Upper
 84 100
 49 89.8 110.0 165.0#
 51 34.1 34.6 51.8#
 86 70.8 50.6 75.8





#23

Vinyl Acetate

Concen: 0.093 ppbv

RT: 5.14 min Scan# 685

Delta R.T. -0.00 min

Lab File: VL033909.D

Acq: 13 Jun 2019 22:48

Instrument :
MSVOA_L
ClientSampled :

Tot Ion: 43 Resp: 17712

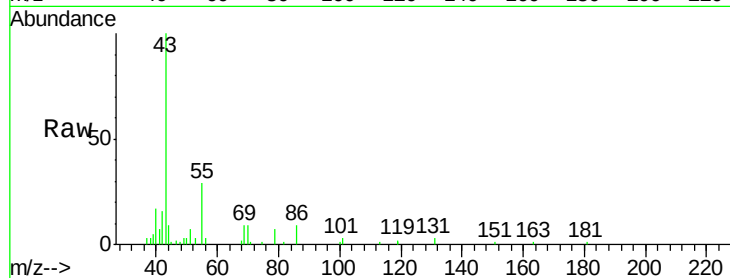
Ion Ratio Lower Upper

43 100

86 5.9 5.8 8.8

42 11.5 7.8 11.8

44 4.5 4.2 6.4

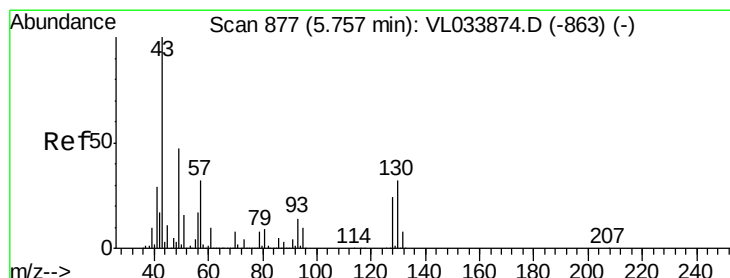
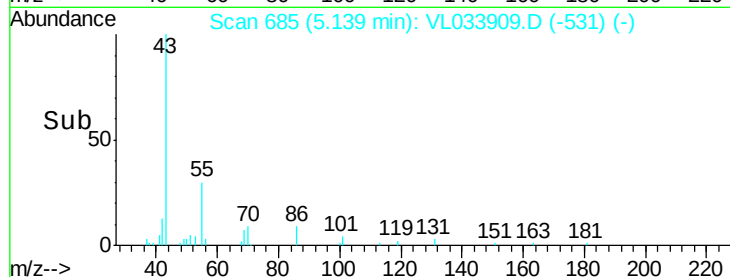
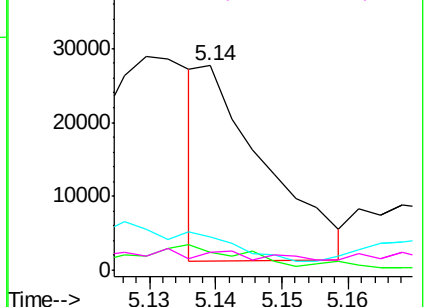


Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 86.10 (85.80 to 86.80): VL0

Ion 42.10 (41.80 to 42.80): VL0

Ion 44.10 (43.80 to 44.80): VL0



#25

Ethyl Acetate

Concen: 0.118 ppbv

RT: 5.76 min Scan# 879

Delta R.T. 0.01 min

Lab File: VL033909.D

Acq: 13 Jun 2019 22:48

Tgt Ion: 43 Resp: 29496

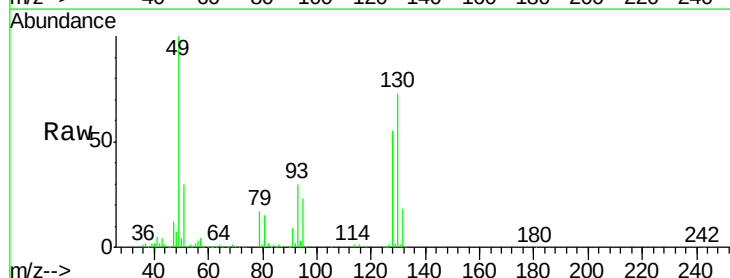
Ion Ratio Lower Upper

43 100

45 10.2 7.9 11.9

61 4.1 7.8 11.6#

70 9.1 5.8 8.6#

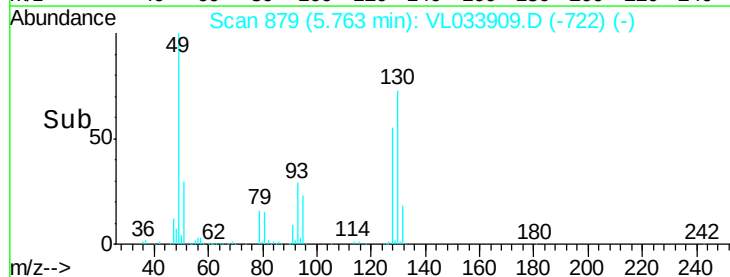
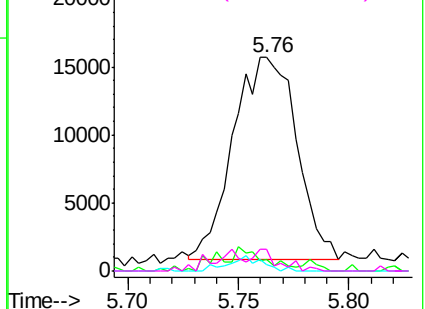


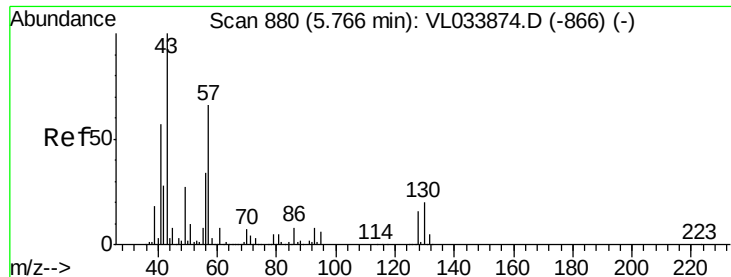
Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 45.10 (44.80 to 45.80): VL0

Ion 61.10 (60.80 to 61.80): VL0

Ion 70.10 (69.80 to 70.80): VL0

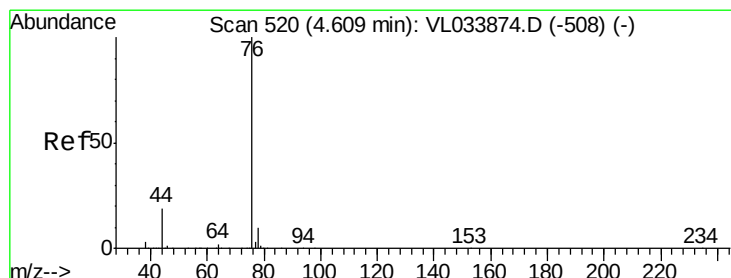
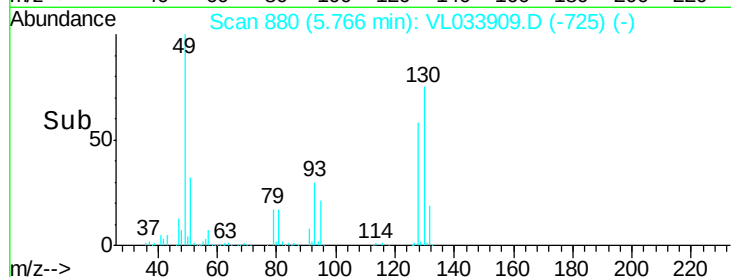
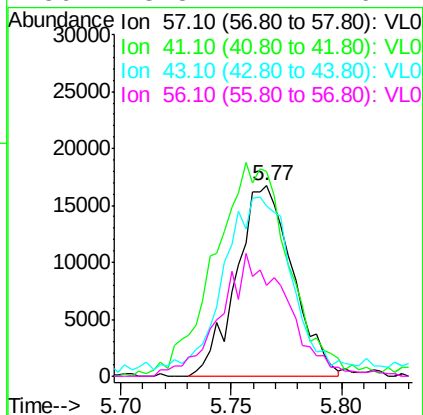
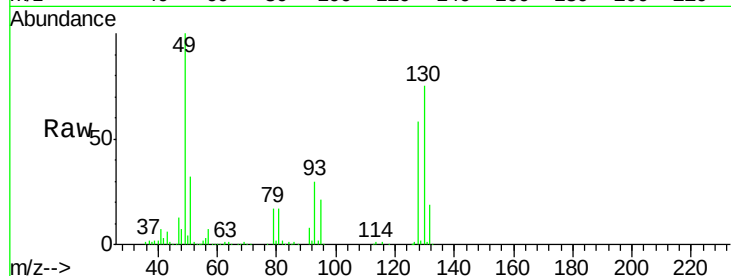




#26
Hexane
Concen: 0.260 ppbv
RT: 5.77 min Scan# 880
Delta R.T. -0.00 min
Lab File: VL033909.D
Acq: 13 Jun 2019 22:48

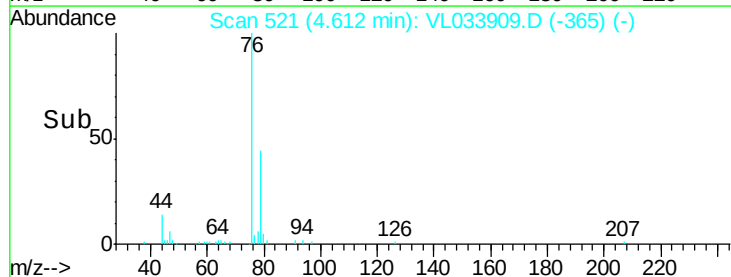
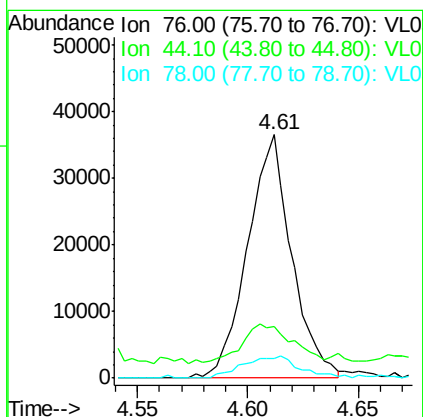
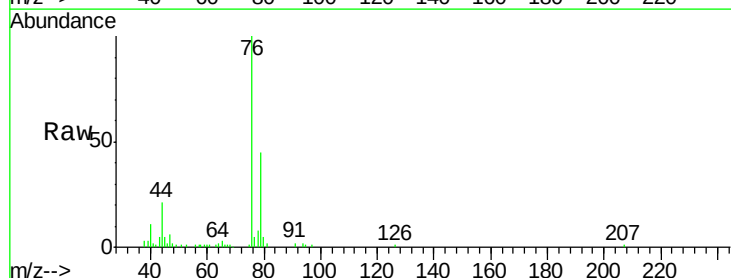
Instrument :
MSVOA_L
ClientSampled :

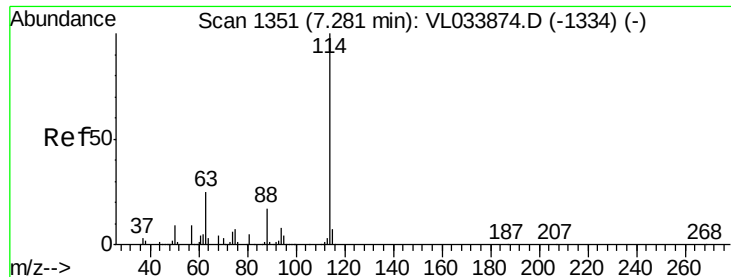
Tot Ion: 57 Resp: 29520
Ion Ratio Lower Upper
57 100
41 150.3 71.4 107.2#
43 112.9 183.7 275.5#
56 78.8 42.7 64.1#



#27
Carbon Disulfide
Concen: 0.322 ppbv
RT: 4.61 min Scan# 521
Delta R.T. 0.00 min
Lab File: VL033909.D
Acq: 13 Jun 2019 22:48

Tgt Ion: 76 Resp: 50775
Ion Ratio Lower Upper
76 100
44 23.3 14.4 21.6#
78 11.7 7.5 11.3#





#33

1,4-Difluorobenzene

Concen: 10.000 ppbv

RT: 7.28 min Scan# 1350

Delta R.T. -0.00 min

Lab File: VL033909.D

Acq: 13 Jun 2019 22:48

Instrument :

MSVOA_L

ClientSampleId :

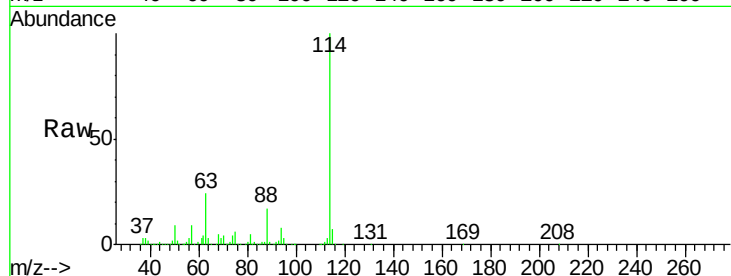
Tot Ion:114 Resp: 2523004

Ion Ratio Lower Upper

114 100

63 24.6 21.1 31.7

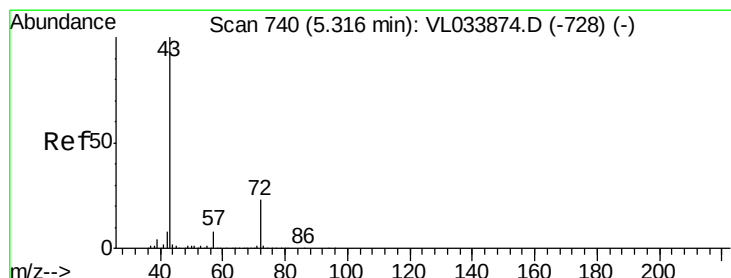
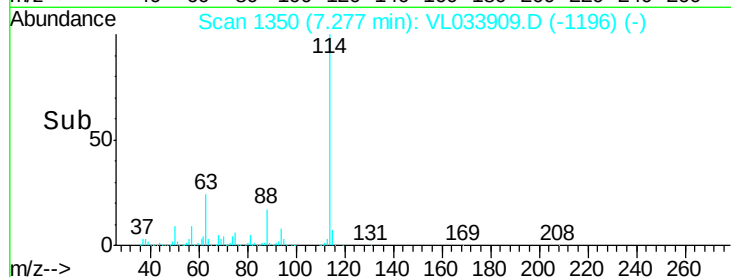
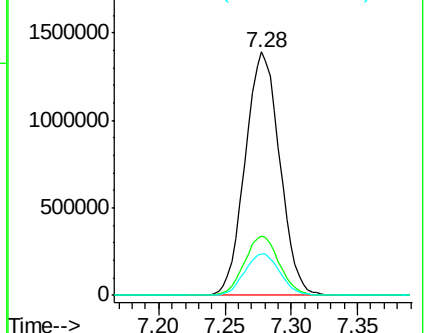
88 17.4 14.2 21.4



Abundance Ion 114.10 (113.80 to 114.80): V

Ion 63.10 (62.80 to 63.80): VL0

Ion 88.10 (87.80 to 88.80): VL0



#34

2-Butanone

Concen: 5.779 ppbv

RT: 5.31 min Scan# 739

Delta R.T. -0.00 min

Lab File: VL033909.D

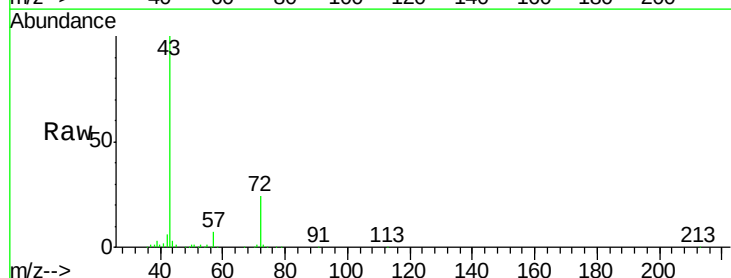
Acq: 13 Jun 2019 22:48

Tgt Ion: 43 Resp: 822523

Ion Ratio Lower Upper

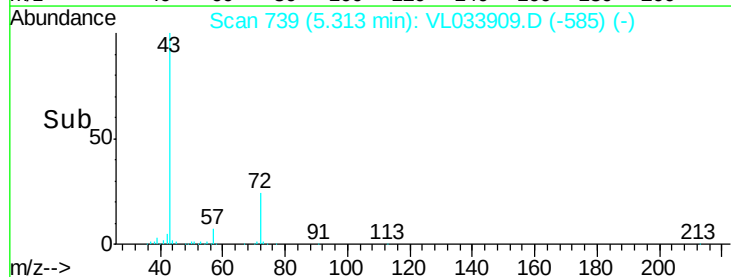
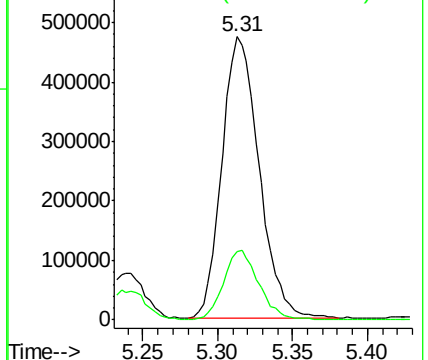
43 100

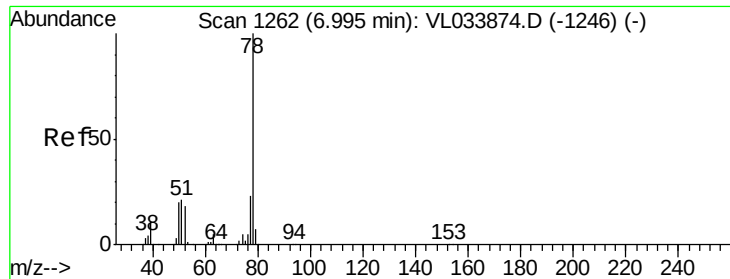
72 23.3 17.9 26.9



Abundance Ion 43.10 (42.80 to 43.80): VL0

Ion 72.10 (71.80 to 72.80): VL0

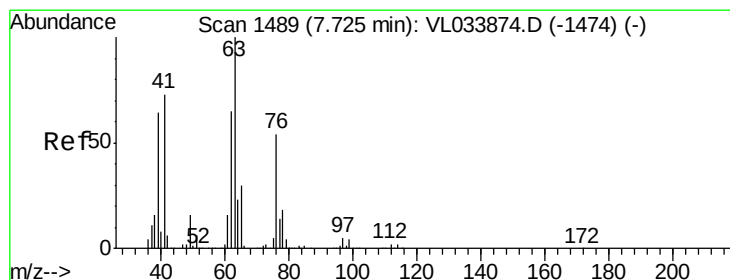
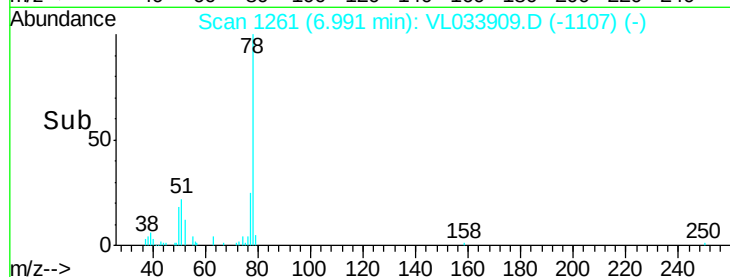
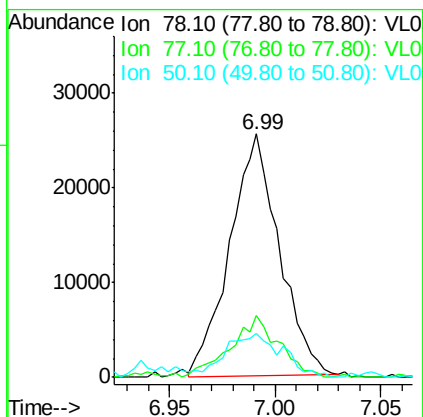
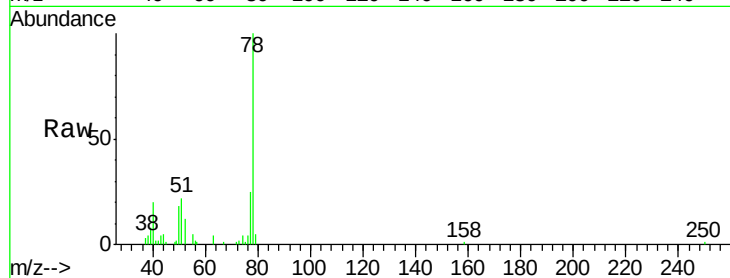




#36
Benzene
Concen: 0.217 ppbv
RT: 6.99 min Scan# 1261
Delta R.T. -0.00 min
Lab File: VL033909.D
Acq: 13 Jun 2019 22:48

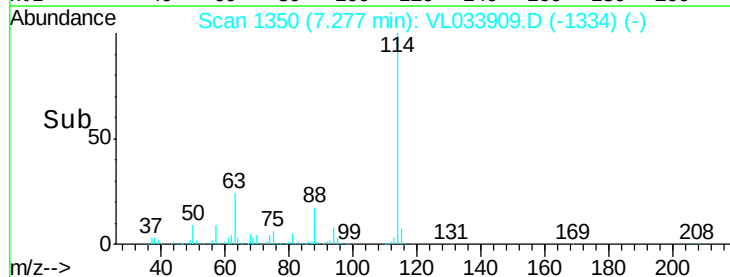
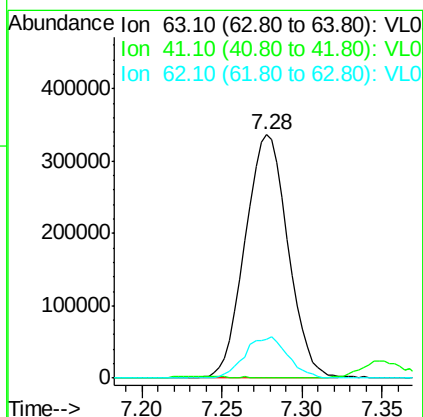
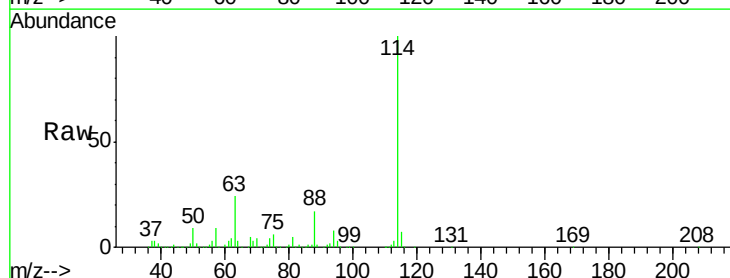
Instrument :
MSVOA_L
ClientSampleId :

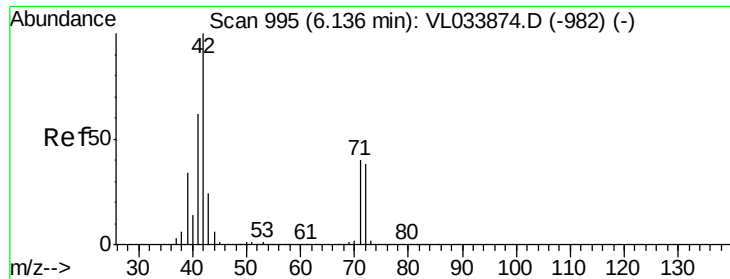
Tot Ion: 78 Resp: 41753
Ion Ratio Lower Upper
78 100
77 24.3 18.2 27.2
50 16.9 15.9 23.9



#39
1,2-Dichloropropane
Concen: 8.266 ppbv
RT: 7.28 min Scan# 1350
Delta R.T. -0.45 min
Lab File: VL033909.D
Acq: 13 Jun 2019 22:48

Tgt Ion: 63 Resp: 614823
Ion Ratio Lower Upper
63 100
41 0.0 58.7 88.1#
62 15.9 51.9 77.9#





#41

Tetrahydrofuran

Concen: 0.628 ppbv

RT: 6.14 min Scan# 997

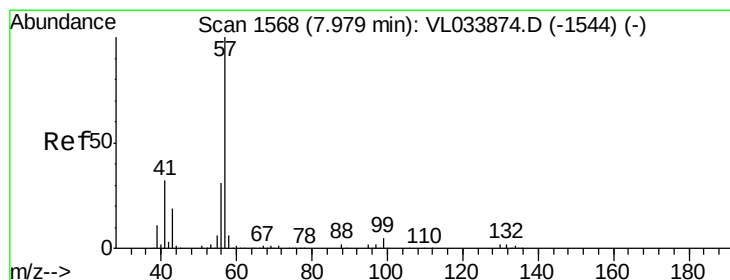
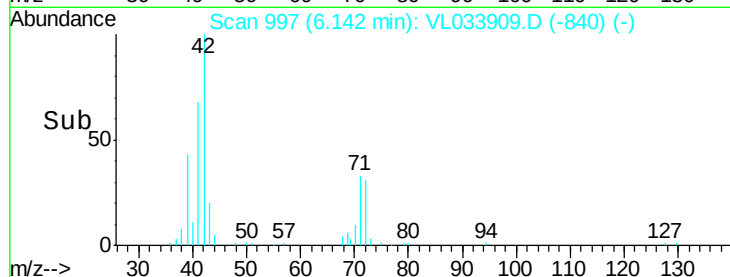
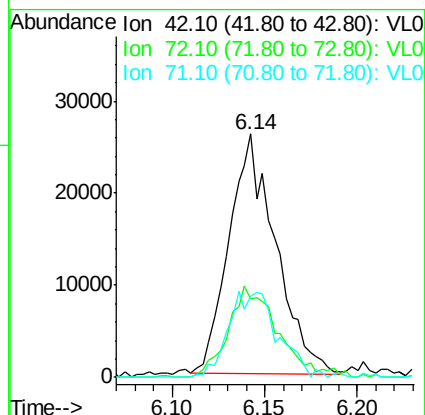
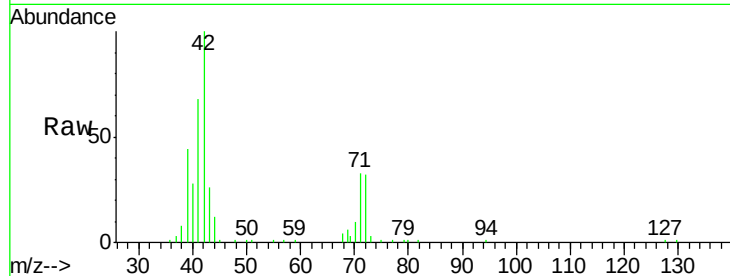
Delta R.T. 0.01 min

Lab File: VL033909.D

Acq: 13 Jun 2019 22:48

Instrument :
MSVOA_L
ClientSampleId :

Tot Ion:	42	Resp:	45371
Ion	Ratio	Lower	Upper
42	100		
72	41.1	32.2	48.4
71	37.9	31.7	47.5



#44

2,2,4-Trimethylpentane

Concen: 0.111 ppbv

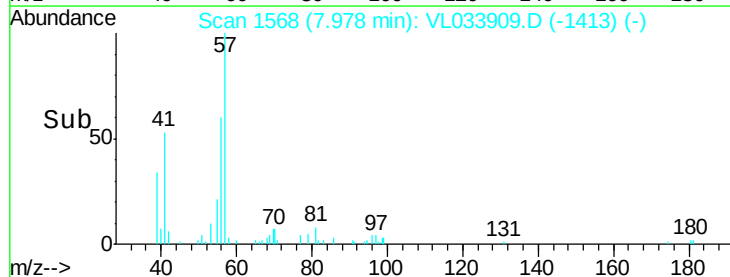
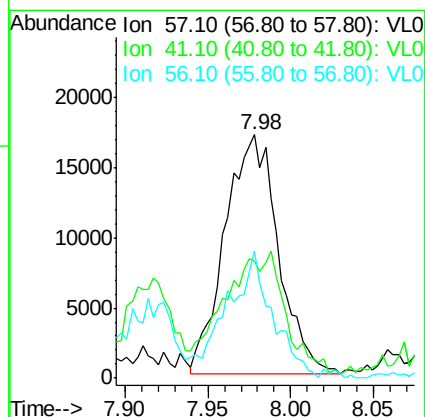
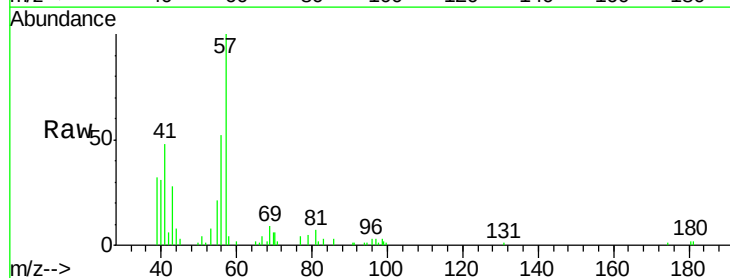
RT: 7.98 min Scan# 1568

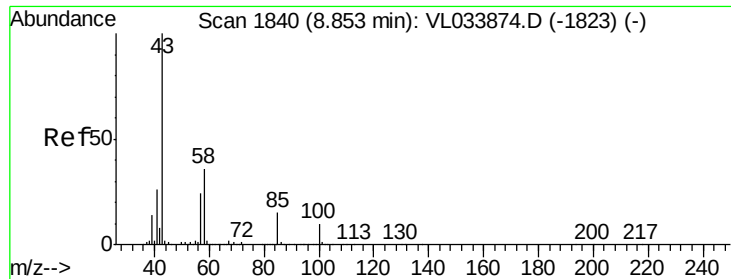
Delta R.T. -0.00 min

Lab File: VL033909.D

Acq: 13 Jun 2019 22:48

Tgt Ion:	57	Resp:	38199
Ion	Ratio	Lower	Upper
57	100		
41	58.6	26.1	39.1#
56	47.2	24.6	36.8#

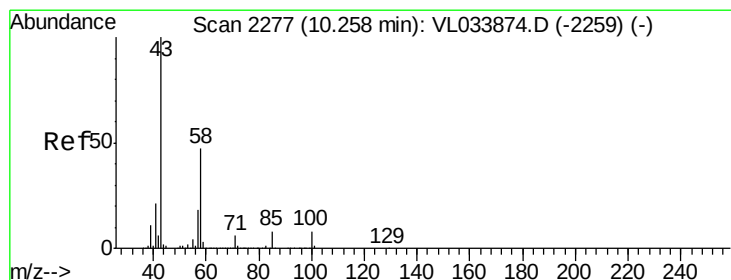
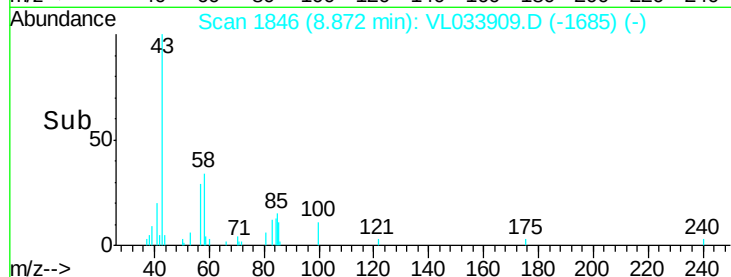
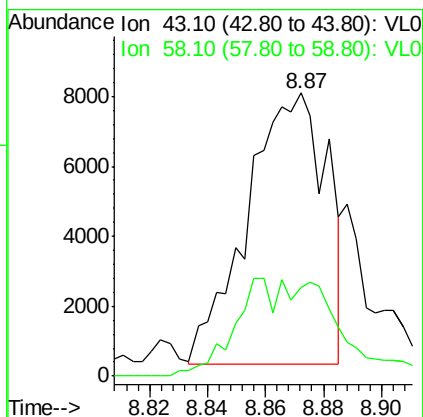
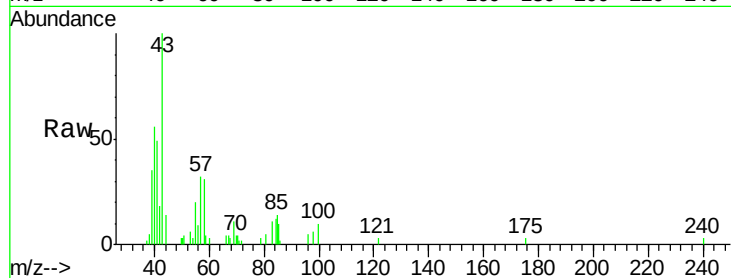




#50
4-Methyl-2-Pentanone
Concen: 0.070 ppbv
RT: 8.87 min Scan# 1846
Delta R.T. 0.02 min
Lab File: VL033909.D
Acq: 13 Jun 2019 22:48

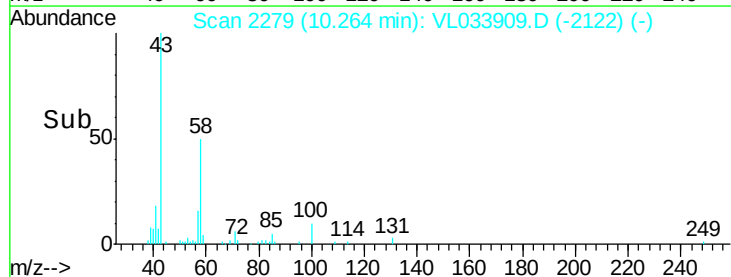
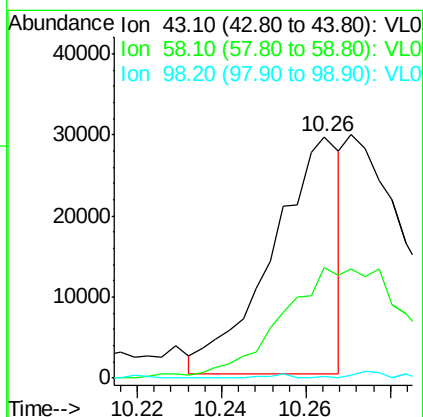
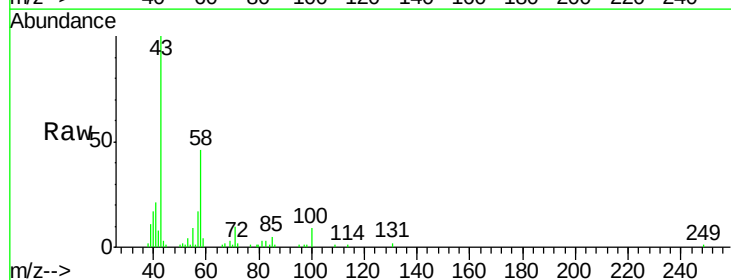
Instrument :
MSVOA_L
ClientSampleId :

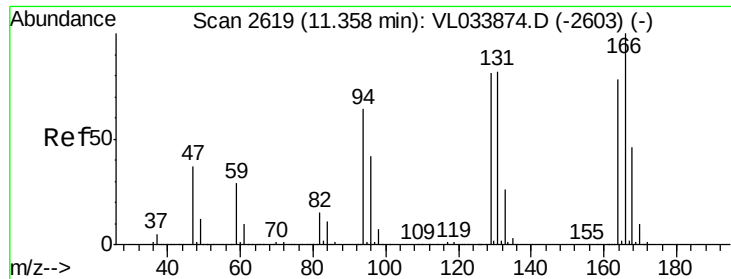
Tot Ion: 43 Resp: 14824
Ion Ratio Lower Upper
43 100
58 44.4 28.6 42.8#



#51
2-Hexanone
Concen: 0.198 ppbv
RT: 10.26 min Scan# 2279
Delta R.T. 0.01 min
Lab File: VL033909.D
Acq: 13 Jun 2019 22:48

Tgt Ion: 43 Resp: 32822
Ion Ratio Lower Upper
43 100
58 90.6 38.2 57.4#
98 0.0 0.2 0.2#

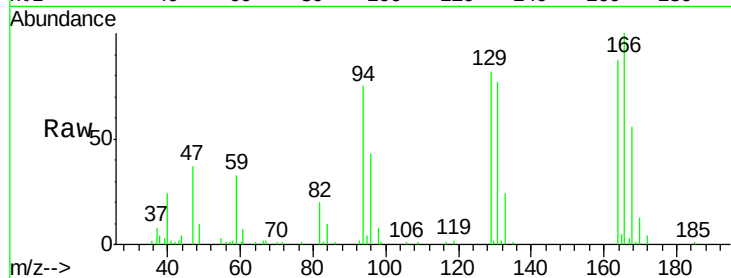




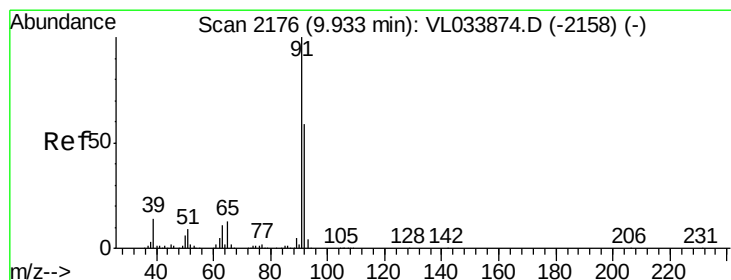
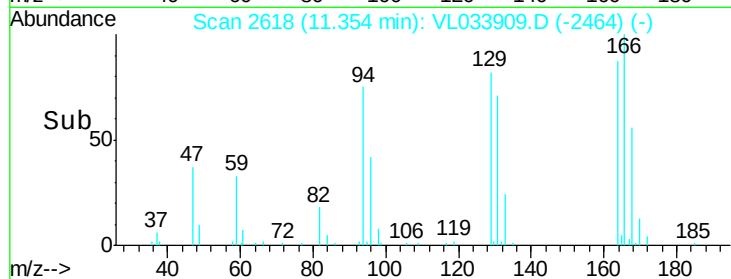
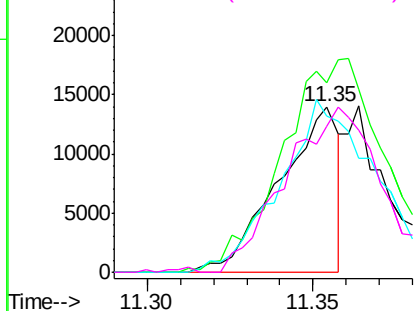
#52
Tetrachloroethene
Concen: 0.257 ppbv
RT: 11.35 min Scan# 2618
Delta R.T. -0.00 min
Lab File: VL033909.D
Acq: 13 Jun 2019 22:48

Instrument :
MSVOA_L
ClientSampleId :

Tot Ion:164 Resp: 17453
Ion Ratio Lower Upper
164 100
166 112.9 103.1 154.7
129 96.8 83.9 125.9
131 85.8 85.1 127.7

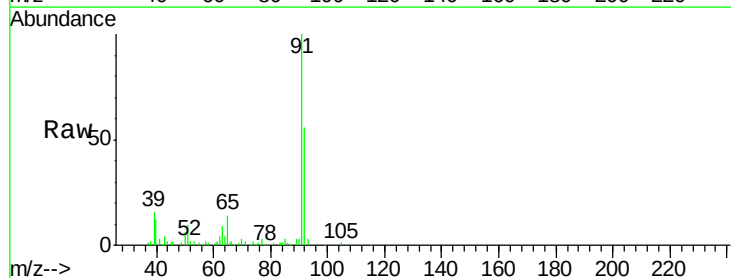


Abundance Ion 163.90 (163.60 to 164.60): V
Ion 165.90 (165.60 to 166.60): V
Ion 129.00 (128.70 to 129.70): V
Ion 131.00 (130.70 to 131.70): V

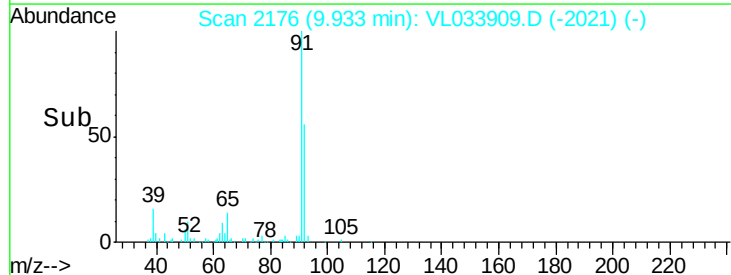
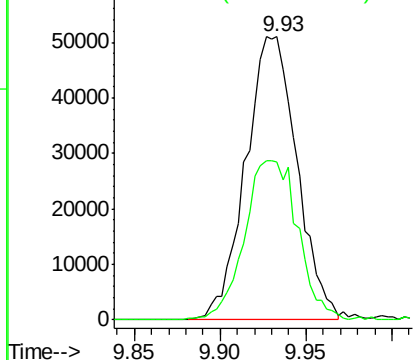


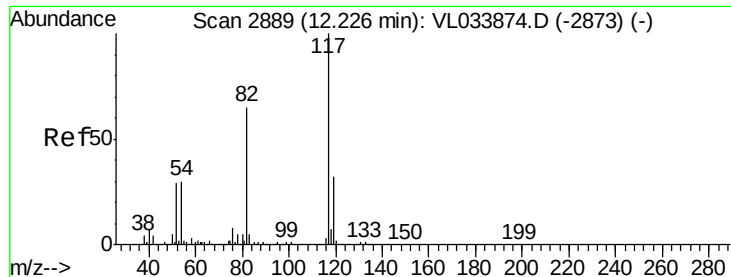
#53
Toluene
Concen: 0.495 ppbv
RT: 9.93 min Scan# 2176
Delta R.T. -0.00 min
Lab File: VL033909.D
Acq: 13 Jun 2019 22:48

Tgt Ion: 91 Resp: 105607
Ion Ratio Lower Upper
91 100
92 58.8 47.0 70.6



Abundance Ion 91.10 (90.80 to 91.80): VL0
Ion 92.10 (91.80 to 92.80): VL0





#55

Chlorobenzene-d5

Concen: 10.000 ppbv

RT: 12.22 min Scan# 2888

Delta R.T. -0.00 min

Lab File: VL033909.D

Acq: 13 Jun 2019 22:48

Instrument :

MSVOA_L

ClientSampleId :

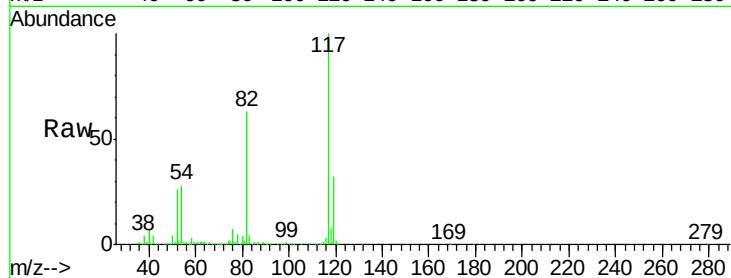
Tot Ion:117 Resp: 2522621

Ion	Ratio	Lower	Upper
117	100		
82	64.0	50.2	75.2
119	32.5	24.8	37.2

117 100

82 64.0 50.2 75.2

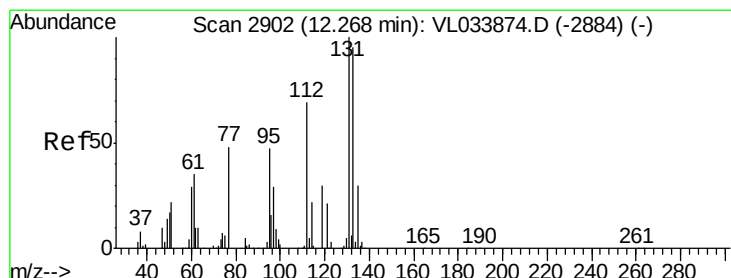
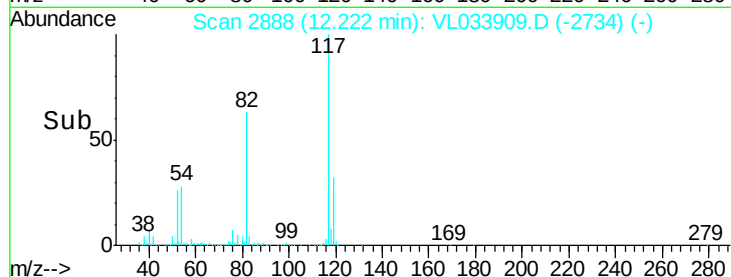
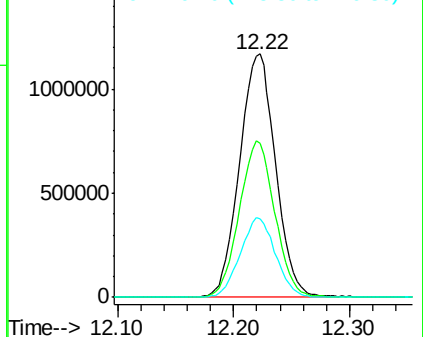
119 32.5 24.8 37.2



Abundance Ion 117.10 (116.80 to 117.80): V

Ion 82.10 (81.80 to 82.80): VL0

Ion 119.10 (118.80 to 119.80): V



#56

1,1,1,2-Tetrachloroethane

Concen: 1.125 ppbv

RT: 12.49 min Scan# 2971

Delta R.T. 0.22 min

Lab File: VL033909.D

Acq: 13 Jun 2019 22:48

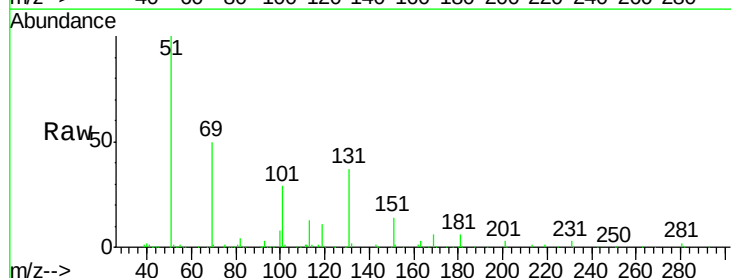
Tgt Ion:131 Resp: 123963

Ion	Ratio	Lower	Upper
131	100		
133	0.0	76.5	114.7#
119	0.0	42.6	64.0#

131 100

133 0.0 76.5 114.7#

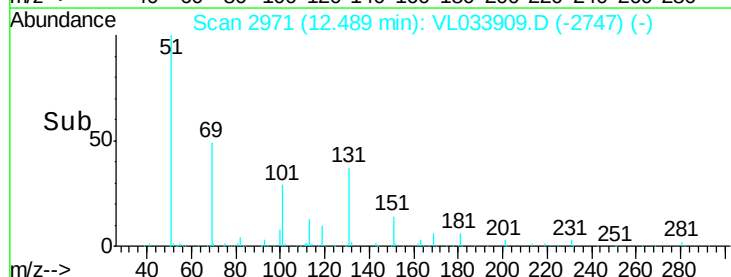
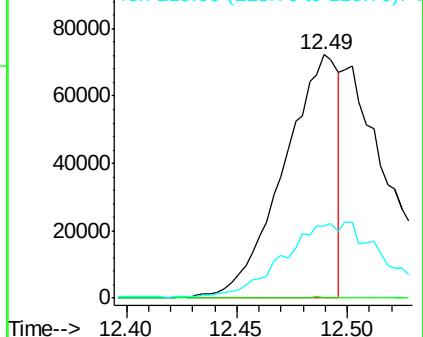
119 0.0 42.6 64.0#

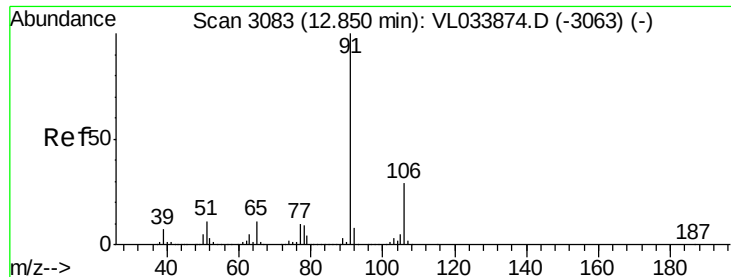


Abundance Ion 131.00 (130.70 to 131.70): V

Ion 133.00 (132.70 to 133.70): V

Ion 119.00 (118.70 to 119.70): V





#58

Ethyl Benzene

Concen: 0.030 ppbv

RT: 13.09 min Scan# 3158

Delta R.T. 0.24 min

Lab File: VL033909.D

Acq: 13 Jun 2019 22:48

Instrument :

MSVOA_L

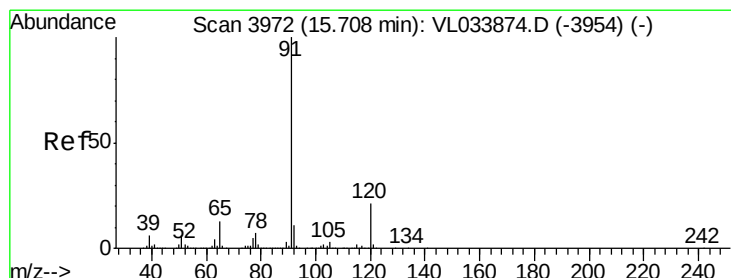
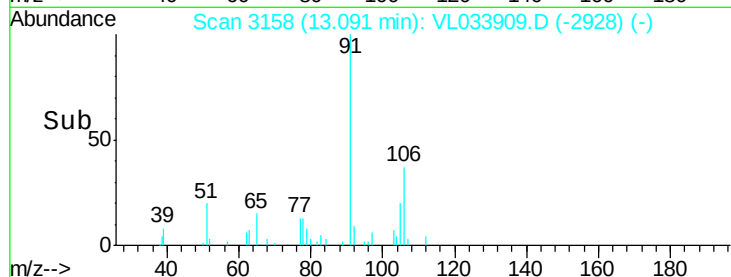
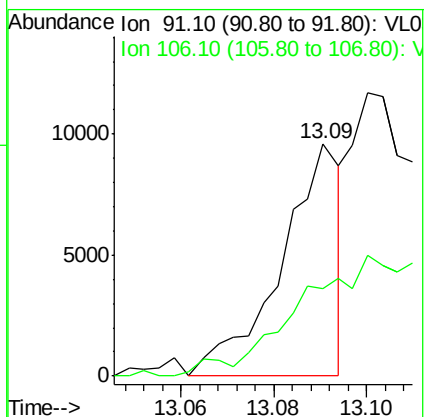
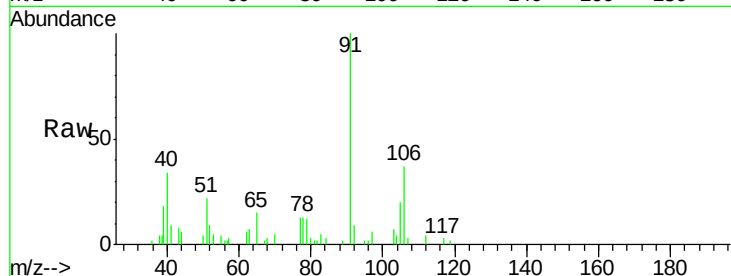
ClientSampled :

Tot Ion: 91 Resp: 8606

Ion Ratio Lower Upper

91 100

106 33.4 23.0 34.6



#64

n-propylbenzene

Concen: 0.136 ppbv

RT: 15.70 min Scan# 3971

Delta R.T. -0.00 min

Lab File: VL033909.D

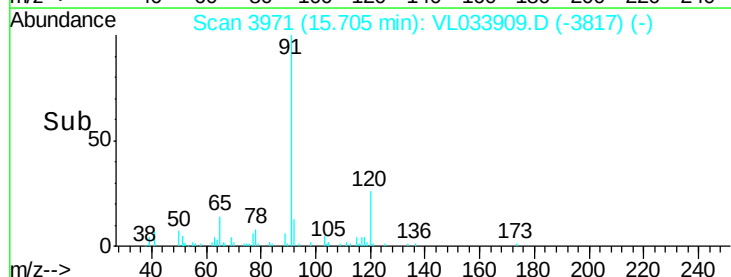
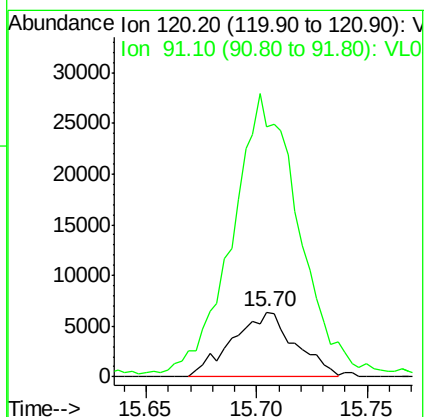
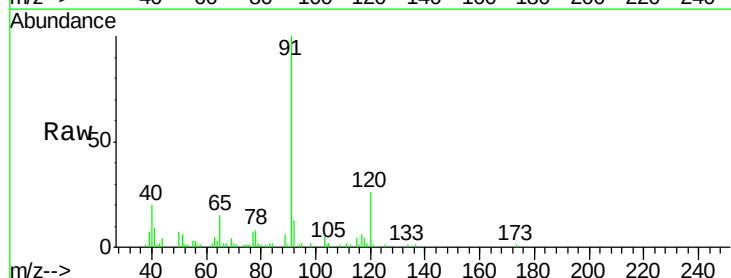
Acq: 13 Jun 2019 22:48

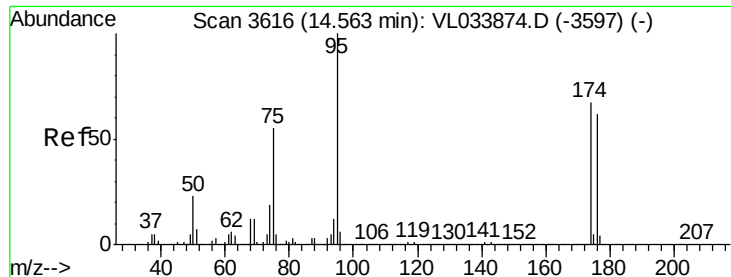
Tgt Ion:120 Resp: 12553

Ion Ratio Lower Upper

120 100

91 489.2 387.0 580.6

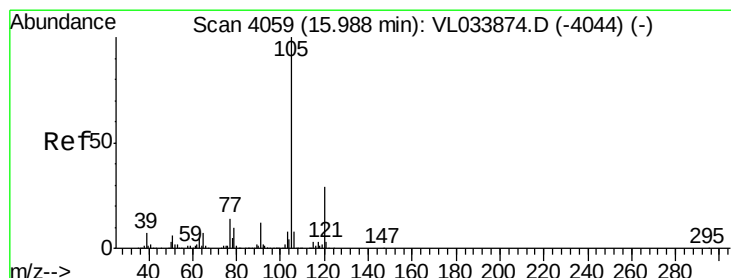
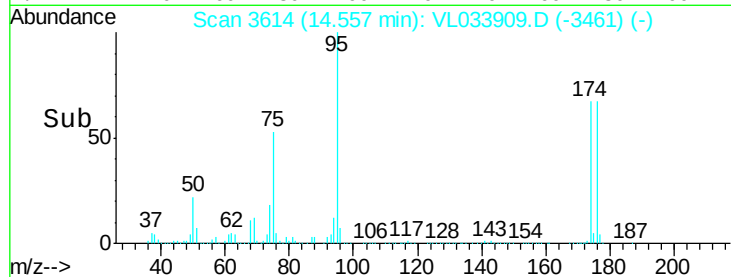
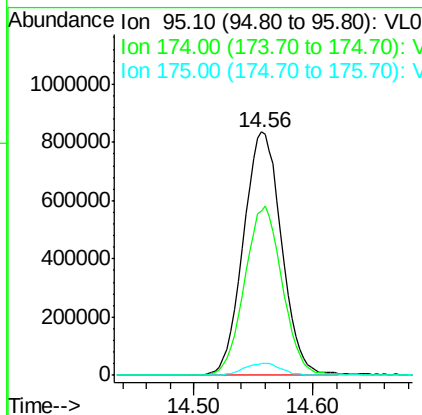
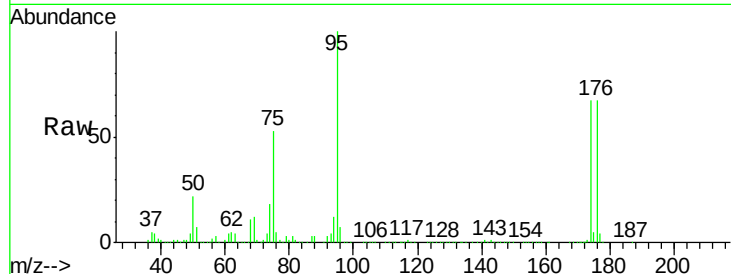




#68
 1-Bromo-4-Fluorobenzene
 Concen: 8.949 ppbv
 RT: 14.56 min Scan# 3614
 Delta R.T. -0.01 min
 Lab File: VL033909.D
 Acq: 13 Jun 2019 22:48

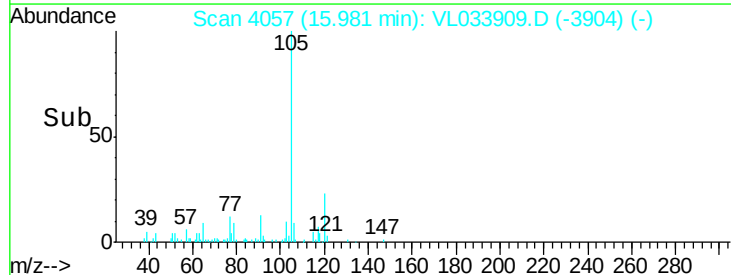
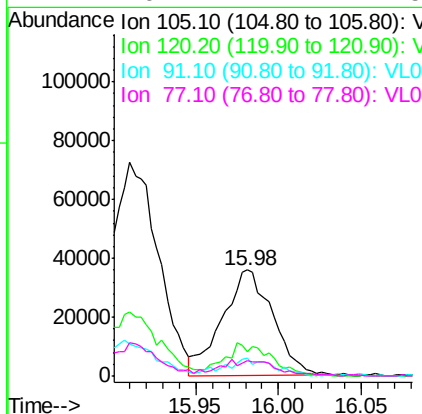
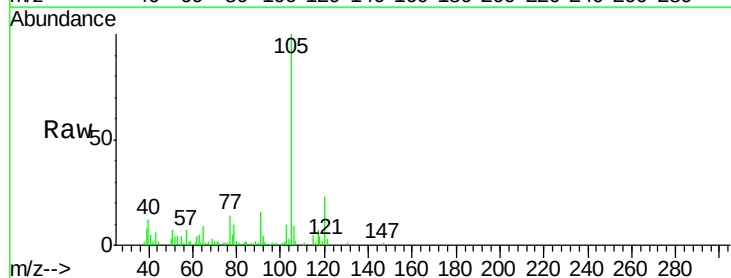
Instrument :
 MSVOA_L
 ClientSampleId :

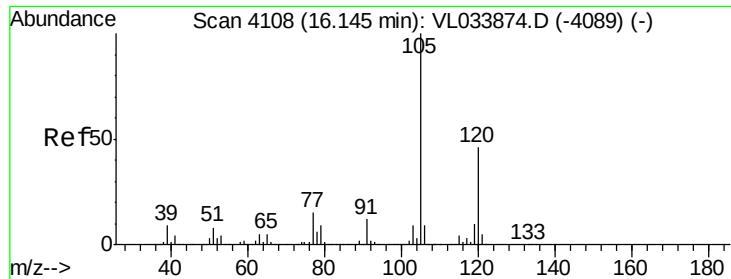
Tot Ion: 95 Resp: 1854357
 Ion Ratio Lower Upper
 95 100
 174 69.4 54.0 81.0
 175 4.8 3.8 5.8



#72
 4-Ethyltoluene
 Concen: 0.249 ppbv
 RT: 15.98 min Scan# 4057
 Delta R.T. -0.01 min
 Lab File: VL033909.D
 Acq: 13 Jun 2019 22:48

Tgt Ion: 105 Resp: 75585
 Ion Ratio Lower Upper
 105 100
 120 28.2 23.5 35.3
 91 18.5 10.4 15.6#
 77 16.4 11.7 17.5





#73

1,3,5-Trimethylbenzene

Concen: 0.088 ppbv

RT: 16.14 min Scan# 4107

Delta R.T. -0.00 min

Lab File: VL033909.D

Acq: 13 Jun 2019 22:48

Instrument :

MSVOA_L

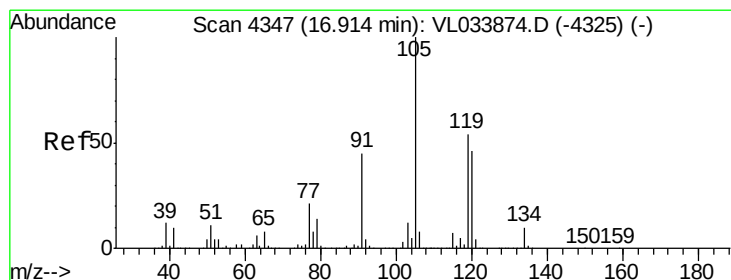
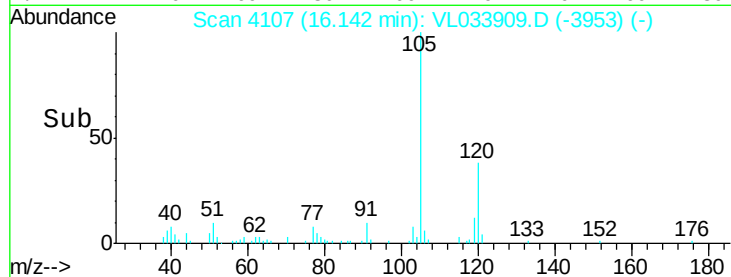
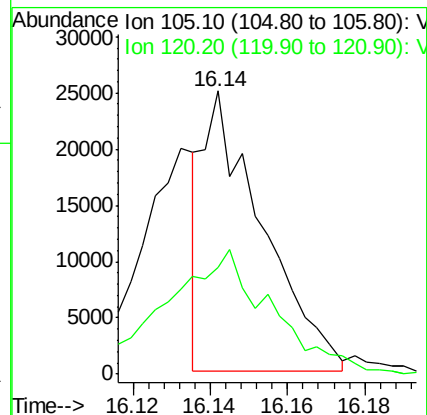
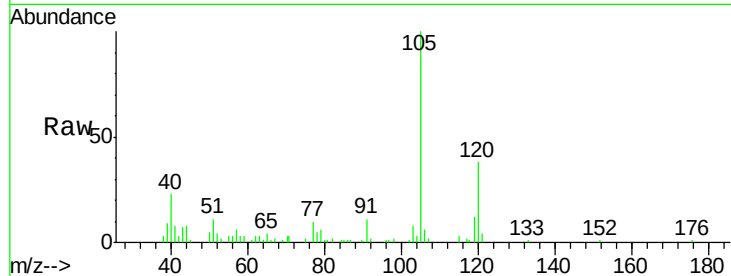
ClientSampleId :

Tot Ion:105 Resp: 26363

Ion Ratio Lower Upper

105 100

120 32.3 37.1 55.7#



#74

1,2,4-Trimethylbenzene

Concen: 0.350 ppbv

RT: 16.91 min Scan# 4345

Delta R.T. -0.01 min

Lab File: VL033909.D

Acq: 13 Jun 2019 22:48

Tgt Ion:105 Resp: 120856

Ion Ratio Lower Upper

105 100

120 51.5 36.7 55.1

91 13.0 35.8 53.8#

77 14.5 16.9 25.3#

